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WHAT IS CLAIMED IS:WHAT IS CLAIMED IS:

1.   A method for automatically interpreting a non-interactive electronic message, comprising the steps of:

    (a) receiving the electronic message from a source;

    (b)   interpreting the electronic message using a rule base and case base knowledge engine; and

    (c)   classifying the electronic message as at least one of (i) being able to be responded to automatically; and (ii) requiring assistance from a human operator.

2.   The method of claim 1, further comprising the step of:

    (d)   retrieving one or more predetermined responses from a repository for automatic delivery to the source when the classification step indicates that the electronic message can be responded to automatically.

3.   The method of claim 1, further comprising the steps of:

    (d)   retrieving one or more predetermined responses from a repository, the predetermined responses being proposed for delivery to the source;

    (e)   forwarding the electronic message and the predetermined response to the human operator when the classification step indicates that a response to the electronic message requires assistance from a human operator; and

    (f)   delivering the predetermined response to- the source when the human operator deems the response appropriate.

4.   The method of claim 3, further comprising the step of:

    (c1) further categorizing the electronic message into at least one of a plurality of sub-categories based on subject matter content of the electronic message.

5.   The method of claim 4, wherein the sub-categories include product service subject matter and product sales subject matter.

6.   The method of claim 4, further comprising the step of:

    (c2)   prioritizing the sub-categorized electronic message into at least one of a plurality of priorities based on the subject matter content of the electronic message

4   wherein a higher priority indicates that the human operator should process the associated

5   electronic message before processing lower prioritized electronic messages.

1   7.   The method of claim 6, wherein the plurality of priorities of a

2   product service sub-category include at least one of (i) fraud and lost products; (ii)

3   sensitive information; (iii) general information; and (iv) user comments.

1   8.   The method of claim 7, wherein the listed priorities are in order

2   from highest to lowest priority.

1   9.   The method of claim 6, wherein the plurality of priorities of a

2   product sales sub-category include promotional content, request for services, and general

3   questions and lengthy messages.

1   10.   The method of claim 9, wherein the listed priorities are in order

2   from highest to lowest priority.

1   11.   The method of claim 1, wherein the step of classifying includes:

2   (c)   classifying the electronic message as at least one of (i) being able

3   to be responded to automatically; (ii) requiring a first level of assistance from a human

4   operator; and (iii) requiring a second level of assistance from a human operator.

1   12.   The method of claim 11, wherein:

2   when the classification step indicates that the electronic message requires a

3   first level of assistance from a human operator, the method further comprises the steps of:

4   (d)   retrieving one or more predetermined responses from a repository,

5   the predetermined responses being proposed for delivery to the source;

6   (e)   forwarding the electronic message and the predetermined response

7   to the human operator; and

8   (f) delivering the predetermined response to the source when the human

9   operator deems the response appropriate.

1   13.   The method of claim 11, wherein:

2   when the classification step indicates that the electronic message requires a

3   second level of assistance from a human operator, the method further comprises the steps

4   of:

5   (d)   retrieving one or more predetermined remarks from a remarks

6   repository to assist the human operator in processing the electronic message manually;

7   and

8   (e) forwarding the electronic message to the human operator.

1   14.   The method of claim 13, wherein the classification step indicates

2   that the electronic message requires a second level of assistance from a human operator

3   when at least one of a phone number, a foreign address, a do not call request, a facsimile

4   number, a specific employee request, sensitive information, and a specific manual

5   procedure is interpreted in the electronic message.

1   15.   The method of claim 1, wherein the electronic message is received

2   over an electronic data communications channel.

1   16.   The method of claim 15, wherein the electronic data

2   communications channel is the Internet.

1   17.   The method of claim 15, wherein the electronic message is an

2   electronic mail (E-mail) message.

1   18.   A method for automatically interpreting an electronic mail (E-mail)

2   message, comprising the steps of:

3   (a)   receiving the E-mail from a source over an electronic data

4   communications channel;

5   (b)   interpreting the E-mail using a rule base and case base knowledge

6   engine; and

7   (c)   classifying the E-mail as at least one of (i) being able to be

8   responded to automatically; and (ii) requiring assistance from a human operator; wherein

9   when the classification indicates that the E-mail can be responded to

10   automatically, the method further includes the steps of:

11   (d)   retrieving one or more predetermined responses from a repository;

12   (e)   formulating an E-mail response from the predetermined response;

13   and

14   (f)   transmitting the E-mail response to the source over the data

15   communications channel.

1   19.   A method for automatically interpreting a non-interactive

2 electronic message, comprising the steps of:

3   (a)   receiving the electronic message from a source;

4   (b)   interpreting the electronic message using a rule base and case base

5 knowledge engine; and

6   (c)   retrieving one or more predetermined responses corresponding to

7 the interpretation of the electronic message from a repository for automatic delivery to the

8 source.

1   ~~20~~ 27.   The method of claim ~~19~~ 26, wherein the source of the electronic

2 message is not predetermined.

1   ~~21~~ 28.   The method of claim ~~19~~ 26, further comprising the steps of:

2   (b1)   classifying the electronic message as at least one of (i) being able

3 to be responded to automatically; and (ii) requiring assistance from a human operator; and

4   (c)   retrieving one or more predetermined responses corresponding to

5 the interpretation of the electronic message from a repository for automatic delivery to the

6 source when the classification step indicates that the electronic message can be responded

7 to automatically.

1   ~~22~~ 29.   The method of claim ~~21~~ 28, wherein the step of interpreting the

2 electronic message further includes the steps of:

3   (b1)   producing a case model of the electronic message including a set of

4 predetermined attributes for identifying specific features of the electronic message;

5   (b2)   detecting at least one of text, combinations of text, and patterns of

6 text of the electronic message using character matching;

7   (b3)   flagging the attributes of the case model which are detected in the

8 electronic message; and

9   (b4)   classifying the electronic-message as at least one of (i) being able

10 to be responded to automatically; and (ii) requiring assistance from a human operator, the

11 classification being performed in accordance with the flagged attributes.

1   ~~23~~ 30.   The method of claim ~~21~~ 28, wherein the step of interpreting the

2 electronic message further includes the steps of:

3   (b1)   producing a case model of the electronic message including (i) a

4   set of attributes for identifying specific features of the electronic message; and (ii)

5   message text;

6   (b2)   detecting at least one of text, combinations of text, and patterns of

7   text of the electronic message using character matching;

8   (b3)   flagging the attributes of the case model which are detected in the

9   electronic message;

10   (b4)   comparing the flagged attributes of the case model with stored

11   attributes of stored case models of the case base;

12   (b5)   comparing the text of the case model with stored text of the stored

13   case models of the case base; and

14   (b6)   assigning a score to each stored case model which is compared

15   with the case model, the score increasing when at least one of the attributes and the text

16   match the stored case model and the score not increasing when at least one of the

17   attributes and the text do not match the stored case model.

1      $3^{1}24$.   The method of claim 30 23, wherein:

2   when at least one of the attributes and the text match the stored case

3   model, the score is increased by a predetermined match weight; and

4   when at least one of the attributes and the text does not match the stored

5   case model, the score is decreased by a predetermined mismatch weight.

1   32 25.   The method of claim 31 24, wherein the match weight has an absolute

2   value greater than zero and the mismatch weight is zero.

1   33 26.   The method of claim 31 24, wherein each score is normalized by

2   dividing the score by a maximum possible score for the stored case model, where the

3   maximum possible score is determined when all of the attributes and text of the case

4   model and the stored case model match.

1   34 27.   The method of claim 30 23, further comprising the step of:

2   (b7)   classifying the electronic message as at least one of (i) being able

3   to be responded to automatically; and (ii) requiring assistance from a human operator, the

4   classification of the electronic message being performed in accordance with the

5   classification of the stored case model having a highest score.

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28. The method of claim 27, further comprising the step of:

    (c)   retrieving one or more predetermined responses corresponding to the interpretation of the electronic message from a repository for automatic delivery to the source when the classification step indicates that the electronic message can be responded to automatically.

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29. The method of claim 28, wherein the predetermined response is altered in accordance with the interpretation of the electronic message before delivery to the source.

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30. The method of claim 28, wherein the attributes include at least one of a source's address, a do not call request, a request for service, a reference to a foreign country, a long message, a reference to a specific product, a reference to multiple questions, and a reference to a specific employee.

31. A system for automatically interpreting a non-interactive electronic message received from a source, the system comprising:

    a server for transmitting and receiving electronic messages over a communications channel;

    an inbox storage device for storing incoming electronic messages;

    a knowledge engine including a rule base and a case base, the case base having a plurality of stored cases representing past received electronic messages;

    a pre-processor for receiving the electronic message and interpreting the electronic message using the rule base;

    a searching device for searching the electronic message and the case base to retrieve a stored case from the case base which most closely matches the electronic message;

    a classifier for classifying the electronic message into at least one of (i) being able to be responded to automatically; and (ii) requiring assistance from a human operator.

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32. The system of claim 31, further comprising:

    a repository of predetermined responses, at least one of the responses being selected from the repository by the knowledge base for automatic delivery to the

4   source when the classifier indicates that the electronic message can be responded to

5   automatically.

1   *41* ~~33.~~ The system of claim ~~31~~, further comprising:

2   a repository of predetermined responses, one or more of the predetermined

3   responses being selected by the knowledge base for proposed delivery to the source; and

4   an electronic router for forwarding the electronic message to the human

5   operator when the classifier indicates that a response to the electronic message requires

6   assistance from a human operator, the router delivering the predetermined response to the

7   source when the human operator deems the response appropriate.

1   ~~34.~~ The system of claim ~~33~~, wherein the classifier categorizes the

2   electronic message into at least one of a plurality of sub-categories based on subject

3   matter content of the electronic message.

1   ~~35.~~ The system of claim ~~34~~, wherein the sub-categories include product

2   service subject matter and product sales subject matter.
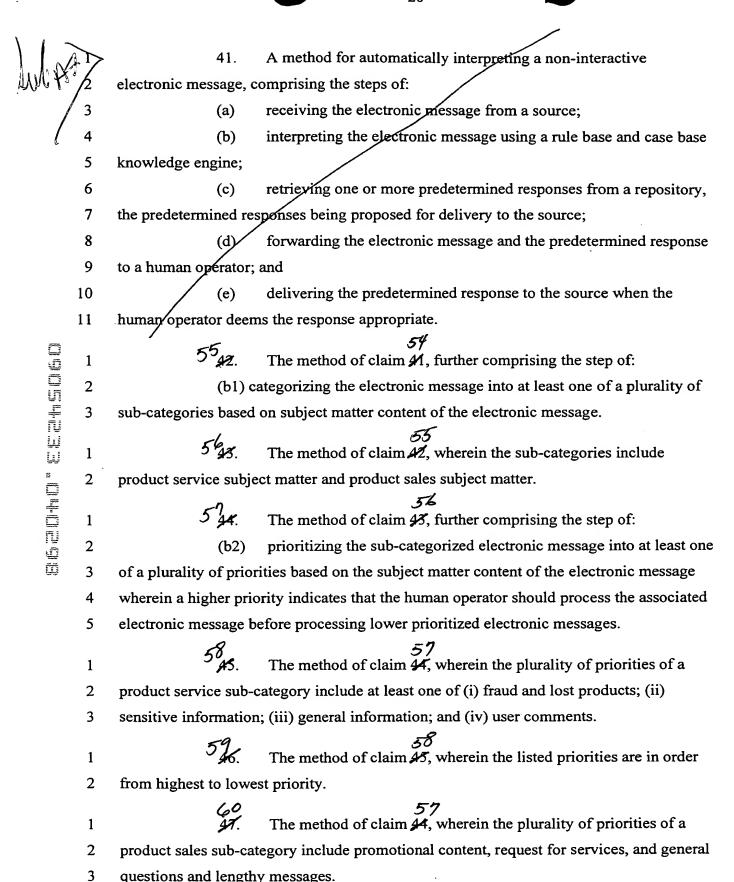
1   ~~36.~~ The system of claim ~~34~~, wherein the classifier prioritizes the sub-

2   categorized electronic message into at least one of a plurality of priorities based on the

3   subject matter content of the electronic message wherein a higher priority indicates that

4   the human operator should process the associated electronic message before processing

5   lower prioritized electronic messages.

1   ~~37.~~ The system of claim ~~36~~, wherein the plurality of priorities of a

2   product service sub-category include at least one of (i) fraud and lost products; (ii)

3   sensitive information; (iii) general information; and (iv) user comments.

1   ~~38.~~ The system of claim ~~37~~, wherein the listed priorities are in order

2   from highest to lowest priority.

1   ~~39.~~ The system of claim ~~36~~, wherein the plurality of priorities of a

2   product sales sub-category include promotional content, request for services, and general

3   questions and lengthy messages.

1   ~~40.~~ The system of claim ~~39~~, wherein the listed priorities are in order

2   from highest to lowest priority.

41.   A method for automatically interpreting a non-interactive electronic message, comprising the steps of:

(a)   receiving the electronic message from a source;

(b)   interpreting the electronic message using a rule base and case base knowledge engine;

(c)   retrieving one or more predetermined responses from a repository, the predetermined responses being proposed for delivery to the source;

(d)   forwarding the electronic message and the predetermined response to a human operator; and

(e)   delivering the predetermined response to the source when the human operator deems the response appropriate.

55 *54* 42.   The method of claim 41, further comprising the step of:

(b1) categorizing the electronic message into at least one of a plurality of sub-categories based on subject matter content of the electronic message.

56 *55* 43.   The method of claim 42, wherein the sub-categories include product service subject matter and product sales subject matter.

57 *56* 44.   The method of claim 43, further comprising the step of:

(b2)   prioritizing the sub-categorized electronic message into at least one of a plurality of priorities based on the subject matter content of the electronic message wherein a higher priority indicates that the human operator should process the associated electronic message before processing lower prioritized electronic messages.

58 *57* 45.   The method of claim 44, wherein the plurality of priorities of a product service sub-category include at least one of (i) fraud and lost products; (ii) sensitive information; (iii) general information; and (iv) user comments.

59 *58* 46.   The method of claim 45, wherein the listed priorities are in order from highest to lowest priority.

60 *57* 47.   The method of claim 44, wherein the plurality of priorities of a product sales sub-category include promotional content, request for services, and general questions and lengthy messages.

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48. The method of claim 47, wherein the listed priorities are in order from highest to lowest priority.

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49. The method of claim 54, wherein the step of interpreting the electronic message further includes the steps of:

(b1) producing a case model of the electronic message including a set of predetermined attributes for identifying specific features of the electronic message;

(b2) detecting at least one of text, combinations of text, and patterns of text of the electronic message using character matching; and

(b3) flagging the attributes of the case model which are detected in the electronic message.

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50. The method of claim 54, wherein the step of interpreting the electronic message further includes the steps of:

(b1) producing a case model of the electronic message including (i) a set of attributes for identifying specific features of the electronic message; and (ii) message text;

(b2) detecting at least one of text, combinations of text, and patterns of text of the electronic message using character matching;

(b3) flagging the attributes of the case model which are detected in the electronic message;

(b4) comparing the flagged attributes of the case model with stored attributes of stored case models of the case base;

(b5) comparing the text of the case model with stored text of the stored case models of the case base; and

(b6) assigning a score to each stored case model which is compared with the case model, the score increasing when at least one of the attributes and the text match the stored case model and the score not increasing when at least one of the attributes and the text do not match the stored case model.

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51. The method of claim 63, wherein:

when at least one of the attributes and the text match the stored case model, the score is increased by a predetermined match weight; and

4   when at least one of the attributes and the text does not match the stored

5   case model, the score is decreased by a predetermined mismatch weight.

1   65. The method of claim 64, wherein the match weight has an absolute

2   value greater than zero and the mismatch weight is zero.

1   66. The method of claim 64, wherein each score is normalized by

2   dividing the score by a maximum possible score for the stored case model, where the

3   maximum possible score is determined when all of the attributes and text of the case

4   model and the stored case model match.

1   17. The method of claim 1, further comprising the steps of:

2   (a1) receiving the electronic message from the source in a first data format;

3   and

4   (a2)   converting the electronic message from the first data format to an

5   electronic message having a second data format.

1   19. The method of claim 18, wherein the first data format is one of a

2   printed document format, a voice data format, a dual tone multi-frequency (DTMF)

3   format, and a first digital data format.

1   20. The method of claim 19, wherein the second data format is a

2   second digital data format.

1   21. The method of claim 20, wherein the first and second digital data

2   formats are ASCII.

1   22. The method of claim 1, wherein the predetermined response is

2   altered in accordance the interpretation of the electronic message before delivery to the

3   source.

1   23. The method of claim 1, wherein the electronic message includes

2   fixed data.

1   24. The method of claim 1, wherein the electronic message includes

2   variable data.

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1   61.   The method of claim 19, wherein the predetermined response is
2   altered in accordance the interpretation of the electronic message before delivery to the
3   source.

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1   62.   The method of claim 19, wherein the electronic message includes
2   fixed data.

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1   63.   The method of claim 19, wherein the electronic message includes
2   variable data.

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1   64.   The system of claim 32, wherein the predetermined response is
2   altered in accordance the interpretation of the electronic message before delivery to the
3   source.

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1   65.   The method of claim 31, wherein the electronic message includes
2   fixed data.

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1   66.   The method of claim 31, wherein the electronic message includes
2   variable data.